FOETAL OUTCOME IN Rh-NEGATIVE MULTIPAROUS WOMEN

by

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The foetal prognosis in Rh-Negative mothers, depends on many factors. The genotype of the father and the extent of exchange between the haematological systems of the mother and foetus are most important. Immunisation in first pregnancy is rare but the occurrence increases in subsequent pregnancies. With homozygous Rh-positive husband, the chance of second child being affected is 1 in 12 and that with a heterozygous husband, 1 in 15. The chance of affection increase with the number of pregnancy and haemolytic disease tends to be more severe. In a previously sensitised woman the still birth rate is 30% (Donald, 1969). Gammaglobulin, if administered timely, reduces the incidence of sensitisation and improves foetal salvage in subsequent pregnancy.

During the period of January, 1978 to June, 1980, 322 Rh-negative mothers were delivered in Eden Hospital, Calcutta, among 22.400 deliveries, an incidence of 1.44%. Of them, 150 cases were multiparous, 120 cases were booked and the rest unbooked referred from peripheral hospitals with investigation reports. Sensitisation was noticed in 23 cases, an incidence of 15.33%.

Observation and Analysis

Eleven cases were aged between 20 to 25 years, 7 between 26 to 30 and 5 between 31 to 40 years.

Of 23 cases, 9 (39.13%) were primiparae; 11 (47.82%), para-2-4, and 3 (13.04%) para-5 and above. Pre-eclampsia was noted in 3 cases. Antibody titre was done in all the cases and in 10 of them 2-4 times. The critical titre was 1 in 128 in this study and termination was done at or above 35 weeks.

It is evident from Table I, that foetal loss was more with increasing titre with an exception. One baby with 1:16 titre was still-born due to placenta praevia at

TABLE I

Correlation of Antibody Titre and Foetal Salvage

Title	No. of cases	No. of Foetal Salvage
1 : 16	6	5 (83.4%)
1 : 32	1	Nil
1 : 64	4	3 (75%)
1 : 128	5	3 (60%)
1 : 256	4	Nil
1 : 512	3	1 (33.3%)

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37 weeks. Although no baby could be saved with a titre of 1 in 256 1 with 1:512 could be saved by caesarean section at 35 weeks. The titre at 28 weeks was 1 in 128 and at 32 weeks 1 in 256. This baby developed moderate jaundice and exchange transfusion was given twice. In 2 other cases, this high titre was detected at 34 weeks with sudden disappearance of F.H.S. One patient with 1:32 titre at 28 weeks had premature delivery at 30 weeks, the baby weight being, 1.350 kg.

The period of gestation was 30-35 weeks in 5 cases, 36-37 weeks in 11 and 38 weeks to term, in 7. Planned termination was done in 1 case at 35 weeks, in 8 at 37 weeks and in 4 at 38 weeks. Six cases were admitted in labour and 4 went into labour spontaneously.

ed gamma-globulin in due time, yet her indirect coomb's test was positive in, 1:128 at 28 weeks and 1:512 at 35 weeks.

Mode of Delivery

Nine cases (39.13%) had L.U.C.S., in 2 of them post C.S. pregnancy with breech presentation was the indication and in 1 severe P.E.T. Fourteen cases (60.87%) had normal delivery of whom 4 had induced labour.

Seven babies belonged to Group A, 10 to Group B, 5 to Group O and 1 to Group AB. Direct coomb's test was positive in all the 17 babies. No. "ABO" incompatibility was seen in immunised cases. Haemoglobin varied between 8-19 gm% among 17 live births. The serum bilirubin was 5 to 30.2 mg% in 10 cases and below 5 mg% in 7.

TABLE II
Birth Weight and Foetal Outcome

Weight	No. of cases	Still-birth	Neo-natal death	Foetal loss
Below—2 kg.	5	1	3	4
2.0-2.5 kg.	11	5	x	5
2.5-3.0 kg.	5	x	x	x
3.1-4.0 kg.	2	x	1	1
Total	23	6 (26.08%)	4 (17.39%)	10 (43.47%)

In sensitised babies also the birth weight is an important factor. There was 80% foetal loss in babies below 2.0 kg. One baby weighing 3.5 kg. had achondroplasia and died 15 minutes after L.U.C.S. Two babies were born with hydrops and icterus neonatorum was detected in 10 out of 17 babies. Over all 13 babies (56.53%) were male and 10 babies (43.47%) female.

Ten out of 23 cases received gamma-globulin, 6 following first delivery and 4 following second delivery. One case who lost her first child due to jaundice receiv-

Exchange transfusion was given in 10 cases when serum bilirubin was 5 mg% and cord blood haemoglobin below 15.5 mg% (as advocated by Donald, 1969). In 2 cases, it was given twice and 8 babies could be saved.

Discussion

The incidence of Rh-negative mothers among all deliveries, during the study period was 1.44%. The reported incidence in India varies from 2.7 to 10% (Bhalgotra and Madan, 1974). Our incidence is low because 50% of the deli-

veries were among unbooked cases and as such without any blood grouping. Among 150 Rh-negative multiparas, the occurrence of iso-immunisation was 15.33%. This incidence too varies widely from 4.72% (Sheth and Purandare, 1964) to 22.8% (Logambal, 1979).

Pre-eclampsia was noted in 13.04% and 2 of them delivered hydrops babies. Knox and Walker (1961) have shown that transplacental haemorrhage is more in toxaemia and in sensitised women it carries a bad foetal prognosis (Logambal, 1979). The foetal loss in those having a titre of 1:256 and above was 83.33% (Table II). But 1 case with a titre of 1:512 had live baby at 35 weeks by L.U.C.S. She lost her first baby due to icterus neonatorum. Gamma-globulin was given in due course which afforded no protection or foetal cells passed into her circulation much before first delivery. For this reason Frissen *et al* (1967) have favoured a small antenatal dose insufficient to harm the foetus. Further the average dose of 250 μg-300 μg may not be sufficient in all cases. The dose requires to be decided on the basis of foetal cell count in maternal circulation. A dose of 1000 μg would afford full protection if given within 36 hrs. of delivery (Woodrow *et al*, 1960), but is not feasible in our country for its prohibitive cost.

Dutta and Ghosh (1970) found that still-birth was frequent with a titre of 1:64 and Logambal (1979) could not save a single baby when the titre was 1:128 and above. The foetal salvage in this series with a titre of 1:128 was 60%. Malhotra *et al* (1975) observed that determination of antibody titre has only a limited prognostic value in subjects who had previously an immunised pregnancy. The perinatal loss in this study was high (43.47%) but 5 out of 10 babies lost, weighed below 2 kg.

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